



THE B&O MODELER

Volume 1, Number 1

JULY/AUGUST 2005



**Modeling Steam Generator Equipped DF-7 Diesels
HO N-34 Wagon Top Covered Hoppers
S-Scale Modeling and the B&O Connection**

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Cover Photos – Top, DF-7 Diesels – Greg LaRocca photo. Bottom, N-34 Covered Hopper – Bruce D. Griffin photo.

AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1600 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their

purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all of the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Several classes of [annual memberships](#) are available, Regular memberships are only \$35.00. If you would like to join, click [here](#) to fill out our [membership application](#), print a copy and mail it to:

B&ORRHS

ATTN: Membership

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FROM THE EDITOR

The development of the Internet and recent advances in desktop publishing have allowed amateurs to publish online magazines and publications. Although they are not always equal to their professional counterparts, they can convey information to readers, cheaply and quickly. This magazine is the B&O Railroad Historical Society's first effort into this new publishing world.

During the B&O's many years of operation, one of its chief competitors was the Pennsylvania Railroad.

They competed for some of the same traffic and ran parallel in many places. While our predecessors competed, our contemporaries at the Pennsylvania Railroad Technical and Historical Society are our compatriots in preserving these two great enterprises. This modern friendship cannot be better demonstrated than by my recent experience in searching information about their online modeling publication, *The Keystone Modeler*. After discovering this great publication on the Internet, I contacted it's Editor Al Buchan (and PRRT&HS

President) and asked if he would offer me assistance in creating a similar publication for the B&ORRHS. His response was overwhelming; he mocked up an issue of *The B&O Modeler* and put me in contact with their Model Committee Chair, Elden Gatwood. They both offered lessons learned, and enough great information to allow me to approach our Society's leadership with a solid proposal. It was soon accepted and I have been working with many others to bring you this new modeling magazine. Most of what you see is a direct result of the shared information provided by Al and Elden, so we all owe them a hardy "Thank You."

This publication is being offered free on the internet following the example of the *The Keystone Modeler*, but that can present some challenges for our Society. What I have learned from many discussions and research about this project is that there are two sure ways to discontinue this publication. The first is to not contribute articles. Everyone who models the B&O must be willing to share their ideas and work with others in the Society and general modeling community on a regular basis to publish new material for this publication to continue. The second is to drop your membership in the Society, taking advantage of this publication's free availability on the internet.

By contrast, the best way to help this publication and the Society is to keep your membership up to date and if you find value in this work, voluntarily contribute a few extra dollars to the Society. The funds will not be limited to helping this publication, but will promote our common interest, the B&O Railroad Historical Society and all its work.

Contributing to this magazine is crucial to its continued existence, whether it is by reviewing articles, offering information about B&O projects that are showing up in the modeling press or writing an article about a recent B&O modeling experience. I have already asked several to contribute and have been offered several reasons why it is just too hard to write an article. As a first time modeling author, I was a little afraid of putting my work in front of others for review, but I was offered much assistance. I can say with much certainty, that when folks know you will publish the information they are sharing with you, they are very forthcoming and in fact you may end up with more information than you wanted. I found that making a mistake on the model was okay, as long as you share it with your reader. This first authoring experience has been great and I learned a great deal. If you have written an article about one your models, you know what I mean. If you haven't, give it a try and you will reap the rewards.

I would like to dedicate this first issue to the man who gave me his love for B&O. He was my father, Kenneth W. Griffin, who spent his entire career on the B&O, except for his time in England with the US Army Air Corp during World War II. He worked the majority of his years in Casualty Prevention or what many would call the safety department, trying to keep others from being harmed in the dangerous railroad workplace. He inspired me to pursue a similar career in safety and health and along the way, be a person who gives back to the community. Thanks for being the greatest Dad.

DID YOU SEE IT?

EDITOR NEEDED

B&O information recently appearing in the modeling press.

- **MODEL RAILROADER, July 2005**
No B&O articles noted.
- **CLASSIC TRAINS, Summer 2005**
Page 53, photo by William E. Hopkins of H16-44 #9740 at Monrovia, MD. Page 98, photo of St. Louis Union Station yard throat, pictures B&O heavyweight train being pulled by E-units.
- **RAILROAD MODEL CRAFTSMAN, July 2005**
Pages 95-103, *Essential Freight Cars: 23--Wagon-top and ribbed side boxcars*. Ted Culotta. Article discusses modeling B&O wagon-top boxcars using resin kits by Sunshine and F&C. Several prototype and model photos showing details and underframe.



Andy Holzopf's M&K engine house, pictured in the color section of Robert's *West End*, is alive and well in California. David Parks and Sam Romerstein built this small module to later incorporate in David's layout. The EL-5 is from Overland and the Q4 is a PSC. Photograph by Sam Romerstein.

NEWS FROM THE COMPANY STORE

BY GEORGE STANT

The Company Store is like a very small retail store that specializes in items of interest to the B&O enthusiast. We stock many of the B&O models that are commercially available in your local hobby store, as well as B&O custom items that were developed especially for our Society. We also stock reprints and other items that Society members have shown an interest. If you are not familiar with the great quantities of B&O reprints that we carry, let me briefly discuss them. The Society has been fortunate to have been able to obtain old maps, track plans, train consists, terminal operating procedures, and the like from the B&O when the company was disposing of old archive data during the period it was merging, first to become part of the Chessie System, then CSX. We have a great Archive Committee that meets once a month to sift through this vast quantity of material. The Society's Archivist, Nick Fry, collects the materials and makes reprints for sale to members and others who want a bit of B&O history. At present, we have over 180 different reprint publications in our inventory.

We have several ways to get model and other Society information out to members, and we are always looking for more. We have, of course, the "Short Blasts" newsletter that is included with the quarterly

shipment of *The Sentinel* that is available to our members. We often feature items that are on sale through the Society. But this document is only published once a quarter. While it proves invaluable to members who do not have internet access, there are two other avenues available for those who do. First is our web site at www.borhs.org. In addition to merchandise sold by our Company Store, the web site contains topics from all areas of the Society. We also have begun maintaining a complete merchandise catalog on the B&O Yahoo Group site http://finance.groups.yahoo.com/group/Baltimore_and_Ohio/. There are two folders set up in the files section of the group that the Company Store maintains. One is called BORHS Catalog, and the other is called BORHS Sale. The Catalog folder contains a complete listing of all the items we stock in our Company Store, prices for members and non-members (there is a difference), and quantities on hand. The catalog is updated as inventory levels change. The other folder, BORHS Sale, contains flyers for any items that may be on sale. Internet commerce is the way of the future. If you want to keep up with the latest, and you have an internet connection, I urge you to join the Yahoo Group (http://finance.groups.yahoo.com/group/Baltimore_a

[nd Ohio/](#)) to get the latest information on Company Store products and sales.

Two of our feature items currently on sale are (#30053) Life-Like Proto 2000 GP-9, Custom lettering w/dynamic brakes, Capitol Dome scheme,

road #6501, from the 1964-1972 B&O era. Price \$69.00; members price \$62.10. You cannot find this authentic paint scheme at any hobby store. We also have a limited quantity of (#32026) Life Like Heritage Steam, D-30, 0-6-0 switchers on sale for \$189.95; members price \$170.96.

NEW PRODUCTS

EDITOR NEEDED

Walthers 10-5, Class S-1

Walthers introduced their 10 Roomette, 5 Bedroom, lightweight sleeper in 2003. Prior to this there were two options for this car. The first was brass, and the second was brass car sides to be overlaid on a core kit. At the time that the Walthers car came out, I knew that a B&O paint scheme would be available sooner or later. Little did I know that I would be instrumental in the cars release in B&O. Walthers first contacted Bob Chapman, a B&ORRHS member, about paint and graphics for the car in the late fall of 2003. Bob was more than glad to supply them with any information that he could, but he asked Walthers if he could bring someone else in on the project that he felt might have some more information on the project. Bob and I worked with Walthers on the project for about a month and a half, confirming color and striping and names on the body and vestibule. The car itself is very well done to Pullman standards, with a complete interior. The interior color is correct for the walls, but if the owner chooses to, some detail painting could be done for the upholstery. The model is ready for interior lighting that is available separately for both DC and DCC, and is a 5 minute drop in project. The Walthers cars don't come with car names. However, a selection of correct names is included leaving the choice up to the modeler. This will prove to be a bonus for Walthers, as they don't have to make an ongoing run of cars for every name that the railroad had, as other manufactures do. I had a set of lettering that I got from Mt. Clare Shops (<http://www.procustomhobbies.com>) years ago, for the 10-5's that had a complete listing of every name. I chose to letter my car "Cascade Boulders" so that I could have a correct name that would be different from the factory selection, yet still be right. The car comes with working diaphragms and scale knuckle spring couplers. The coupler pocket has a very wide swing, more so than a coupler mounted in a standard coupler pocket. This will allow the car to negotiate a tighter radius than if the coupler was body mounted

in the conventional way. Of course this car will not only look better but run smoother on large radius curves. The truck frames are metal, as are the wheel sets. Separate cut levers and grab irons are supplied with the car. This is one heck of a "take it out of the box and run" item. There are three items that I chose to add to the car to bring it up to my level of acceptability. These were to add window curtains in the bedrooms at various heights, window frosting in the lavatory and handrails to the corridor walls. These cars first appeared on the B&O in 1942 and started to leave the roster in the mid 60's. Their biggest downfall was that the 5 double bedrooms had to share a toilet, while the 10 roomettes each had their own toilet. Subsequent cars of other interior arrangements to follow cured this problem.

Bruce Elliott

Walthers Heavyweight 12 sec.-1 DR., Class S-14

The 12-1 was the foundation of Pullman's sleeper fleet, accounting for the largest number of cars. This is the second time that a 12-1 has been introduced to us in styrene. The first one was introduced to us in the mid 60's by Rivarossi, and built to Pullman plan 2410. Walthers car is built to Pullman plan 3410A, making it a different car all together. This is the first release in their new "heavyweight" series, and, for B&O fans, long overdue. As with the lightweight 10-5, Bob Chapman and I spent all of 2004, working with Walthers on this line of cars. The car comes with a/c duct work on the roof, an older style brine auxiliary holdover tank to back-date the system (if the purchaser chooses), a full painted interior, working diaphragms, scale sprung knuckle couplers, and "wide swing" body mounted couplers. Cut levers and some grab irons need to be installed to "detail out" the car, and they are supplied. The car's minimum radius is 24", to operate on tighter curves the center sill must be trimmed for wheel clearance. The truck frames are metal, as are the wheel sets. These cars are designed for optional "drop in" lighting that is available for DC or DCC, and takes all

of 5 minutes to install. The underframe captures 90+ percent of the detail of the prototype. There were 20 of this Pullman plan sold to the B&O in 1948. Seven were "modernized between 1938 and 1940, and 13 of them came to the B&O, as Walthers modeled them. Their names were:

CASTINE (7408)
EAST BUTLER (7416)
EAST CHICAGO (7417)
EAST CLARIDON (7418)
EAST CUMMINSVILLE (7419)
EAST DEFIANCE (7420)
EAST GRAFTON (7421)
GREEN FOREST (7429)
GREEN RIDGE (7430)
GREEN VALLEY (7432)
MIDLOTHIAN (7443)
ORANGE MILLS (7445)
RIVERTON (7447)
THENDARA (7460)

As early as 1953, these cars were being withdrawn from Pullman lease. The small Pullman lettering at the ends of the letterboard was removed, as was the car names, and the car numbers replaced the names. The sleeping accommodations were removed, and the cars went into coach, or express rider service. Their car classification however, did not change. The coach/express rider service numbers that correspond

to the names are shown to the right of the names in parentheses.

Since Walthers chose not to letter their cars this gives us quite a selection of options. I already have two 12-1's as Pullmans, so I chose to number mine as a coach/rider car. There is no need to be concerned as to the interior arrangement, if you chose to make your car into a coach or rider car, it's all the same. Again, I added window curtains at various heights in the section and drawing room windows. These were made from masking tape. Another upgrade was to add a brass handrail to the hall windows.

Bruce Elliott

Overland C-27a Caboose

Overland Models, Inc. is producing B&O C-27a Caboose in N-Scale, #904000 series in six numbers. Photographs of this model, OML #BB-1021 are in their Online Bulletin #142 (<http://www.overlandmodels.com>)

Mt. Clare Shops Passenger Car Stripe Decals

Mount Clare Shops has added waterslide, twelve inch long, scale 1" Dulux Gold decal stripes to its line. These will help passenger car modelers add stripes in one piece, instead of piecing shorter stripes together. They are product #5001 - 1" HO scale Dulux stripes 12 real inches long, 8 stripes. \$4.50. They are available through Pro Custom Hobbies, (www.procustomhobbies.com)

UPDATES AND ERRATA

MODELING STEAM GENERATOR EQUIPPED DF-7 DIESELS IN HO SCALE

BY GREG LARocca

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.



The Prototype

Between November, 1950 and May, 1953, the Baltimore and Ohio took delivery of Alco 1600 hp FA-2 and FB-2 locomotives, numbered 801 to 837, odd only, road class DF-7 and DF-7X. Most of these locomotives were delivered as A-B-A sets, although there were two A-B-B-A lash-ups (numbers 817 and 837). Four of the A-B-A sets, numbers 809 to 815, and one A-B-B-A set, number 817, were delivered as model FPA-2/FPB-2, equipped with steam generators. The B&O was a great railroad for having freight locomotives equipped for passenger service, with locomotive classes DF-3, DF-4, some DF-5, in addition to the DF-7 listed above, all having steam

generators. Presumably, these locomotives were so equipped for use on race trains, mail trains, director and fan specials, and to serve as passenger helpers or protection power.

The only difference in the appearance of the Alco diesels between the dual service equipped units and the freight-only version was the steam generator intake and exhaust, and the fuel tank, which was almost twice as long to accommodate 1200 gallons of boiler water in addition to 1200 gallons of fuel. See *Baltimore and Ohio Railroad Diesel Locomotive Roster* for detailed specifications and numbering of these units.



DF-7 #814 at Blairs Corner, Pa. B&ORRHS Collection



The Model

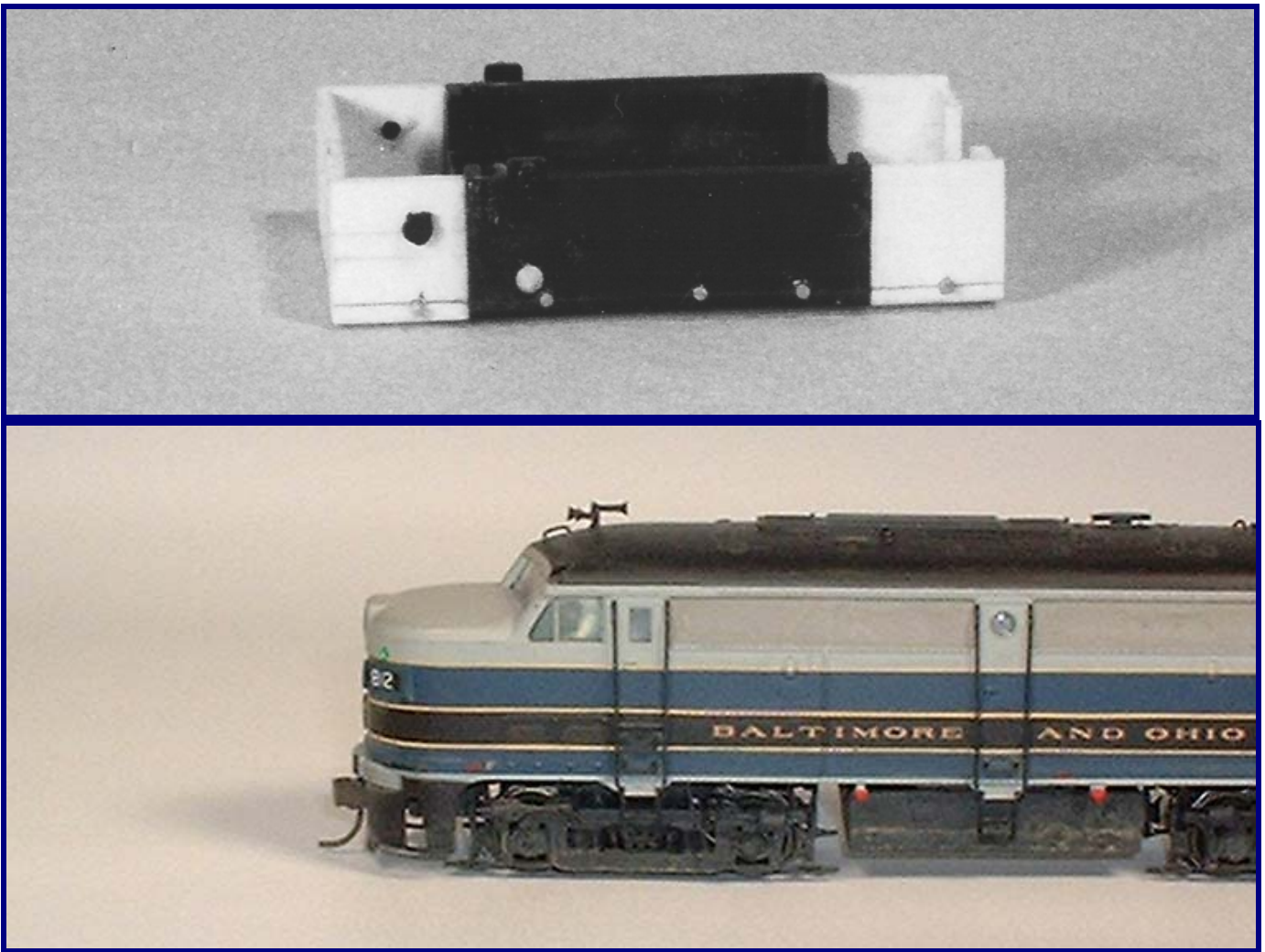
In the early 1990's, Life Like imported Alco FA-2 and FB-2 engines as part of their Proto 2000 line. Among the road names offered was B&O, in the delivery scheme of blue, black, and gray, and numbered 837, 837A, and 837X. (More recently, Proto 2000 has offered FA-2/FB-2 sets, painted in the later solid blue with black stripe scheme, with post-1957 road numbers). Although either version can be used as the basis for the steam generator equipped engines, I built mine using the original run. Be aware that the earlier run lacks dynamic brake details (which we'll be adding) and the paint is somewhat "off"--the blue is a shade too light, and the engine ends are gray rather than the proper black. Nothing can be done about the blue, but the gray ends are easily fixable. As for availability, the older, delivery scheme locomotives are offered on eBay quite frequently. As with many of my models, these engines are not necessarily 100% exact, but rather attempt to catch the essence of the prototype. I will try to point out discrepancies as we go along.

Modifying the Fuel Tank

To start, remove the fuel tank casting from the model. Looking at the photograph, you can see how I

extended the fuel tank using 0.040" sheet styrene. The modified fuel tank's new length is 12 scale feet; the extensions are each 2'6" long. The material that Proto 2000 used to make the fuel tank does not take styrene cement very well and I ended up using ACC adhesive. Since building my model, I have found a new glue from Elmer's called "Probond" which I suspect would be a better adhesive. As you can see in the photo, I had to notch out the front end to accommodate the motor mount.

After bonding the new styrene pieces to the fuel tank, I use a file to round the bottom edges to match the radius of the original piece. Next, I drew a pencil line 3 scale inches above the tank radius. Then, at 1, 3.5, 5.5, 8.25, and 10.5 scale feet from the tank's front (e.g., going right to left in the photograph), I drilled a #60 hole, and inserted pieces of 0.040" diameter brass rod. Each piece of rod was only a scale foot or so long, and I allowed only a small amount (maybe 0.010") to protrude from the tank's surface. Then, just above, and toward the rear of the fourth brass piece, I added a Campbell Scale Models NBW casting. Finally, directly above the last brass piece, and about even with the bottom of the sight glass, I added a Detail Associates MU receptacle (the round, short one) from set #1507.



Roof Details

There are three details to add to the roof of both the A and B units. The A units were originally delivered with a pair of single chime air horns, one facing forward and one facing rearward. Sometime during their service life, the engines were given three chime horns. Life-Like supplied the models with a poor rendition of what I can only assume was supposed to be a three chime horn, but it only had two bells. I replaced this with a Details West Nathan P-3 (#175) that I had on hand; their M-3 (#186) or Leslie RS-L-3L-R (#190) is probably more correct. However, B&O Diesel Historian Jim Mischke believes the third Alco cab unit order in 1953 came with the Nathan P-3 horns. (I should note here that Jim provided a pre-publication review of this article, and I have noted his comments where appropriate.) If you wish to model the as-built single chime horns, I suggest Details West #173. The B units were equipped with a single chime horn, facing forward, centered between the first roof hatch and the engine hatch; I used a plastic

horn from the scrap box but again, Details West #173 is a good choice.

The next detail addition is the dynamic brake. Cal Scale makes this part in both black plastic and brass (numbers 461 and 462, respectively). I prefer the black plastic casting; I simply epoxy it in place without painting. It is centered side to side on the engine hatch just forward of the turbo exhaust hatch on both the A and B units.

The final detail is the steam generator equipment. I used Details West #118, which is for EMD GP units. The B&O's FPA and FPB units had Vapor OK-4625 steam generators, the same as the passenger equipped GP-7 and -9 engines (Mischke, 1998). Based on that, it seemed logical to me that the external appearance would be similar. However, Jim Mischke indicated that locomotive builders evidently built their own vents to suit the roofline and equipment arrangement. At the time of building these models, I had never

seen an overhead shot. As luck would have it, the Second Quarter 2005 *Sentinel* (copy available through B&ORRHS Company Store, <http://borhs.org/Shopping/index.html>) has a John Young photo of an A-B-B FA set pulling a passenger extra; the first B unit is S/G equipped, and you can see from that photo how the roof vents were arranged. Since I lacked good data, I followed my logic, and placed the parts following the steam generator layout on an Athearn F-7 shell. Again, as

noted, I used the Details West EMD set. Custom Finishing has what seem to be more appropriate parts; they make several Alco RS-style steam generator intake vents and stacks. However, looking at the John Young photo referenced above, it is not clear to me that the CF parts are really that much more correct. If I were to use the CF parts, I would use #247-211, which is an RS-11 set. Finally, note that on the B unit, the steam generator is installed at the *front* of the engine.



The Ends

When I built my model, I didn't have a good photo or reference for how the ends of the units were detailed, so I used a drawing from, I believe, *Mainline Modeler*, showing a round, double-backup light. As you can see in the photograph, I used a Cal-Scale #395, Dual Sealed Beam-Pyle National Headlight with MV Lens #LS22, placed to the left of the

diaphragm, on the A unit end, and both ends on the B unit. However, this is incorrect. The photo on page 96 of *Trackside Along the B&O 1957-1958* with Edward P. Griffith shows the rear of FA-2 4016 (ex-865), with a portable backup light installed in the rear door. Jim Mischke notes that fixed backup lights were only on the rear of B-units, with none on the front of the B's or the ends of the A's. Presumably,

the Alco B-unit backup light was like that on an EMD F-7 B-unit; a large, barrel style to the right of the door. No commercial parts exist for these backup lights; my thought would be to take a piece of 1/8" brass tube, drill out the end, glue the tube so that a

scale 6" or so is protruding, and then use an appropriate sized MV Lens as the headlight. A detail I didn't add is also shown in this photo: re-rail frogs hanging on each side of the door-way.



To correct the end color from gray to black, I carefully brush painted Polly-Scale Steam Engine Black. The Polly-Scale handles very nicely, covering in one coat, and doesn't leave brush marks. Painting the ends is the biggest improvement you can make to these models, in my opinion.

The Nose

To the A unit's nose, I added a Cal Scale B&O Plate (#244) over the painted on one. I dished the cast-on marker lights with a drill sized for MV #LS221 lenses, and did the same to the headlight casting to replace it with an MV #LS11 Lens. These were glued in place after flat finishing the model (see below). On the fireman's side front truck rear journal box, I added a Utah Pacific #WS65 Axle Wheel Slip casting to which I soldered a 0.020" piece of brass wire; I bent the wire to appear to go up into the carbody. I added a Custom Finishing #229 Pickup Shoe to the engineer's side front truck front axle for

the ATC shoe. I bent windshield wipers out of 0.011" stainless steel wire (Small Parts, Inc., #U-SWX-30911) and added them just above the windshields. I made a front number board from a 0.020" X 12 scale inch styrene strip, cut to 2 scale feet in length. This was painted with Floquil Dark Blue, and glued to the nose over the painted on number. Finally, I painted the number boards with Polly-Scale Steam Power Black. One detail I did not add were the four front vents that the B&O added ca. 1954 for front traction motor blower intake. If I were to choose to model these vents, I would cut the side panel louvers off of an Athearn "blue box" F-7A shell, thin them down by rubbing against a piece of rough sandpaper until they were paper thin, cut them in half lengthwise, paint blue, and then carefully glue them onto the P2K shell. The grills on the prototype appear to be flush with the nose, whereas this technique places the vents as a raised detail, but I can't think of a better way to model them.



Renumbering

Using an X-Acto #17 blade held perpendicular to the model's surface, I carefully scraped off the painted on numbers at the rear of each unit, avoiding removing the class data. Any paint removed was touched up with the Floquil Dark Blue. I then carefully removed the model's window glass, and airbrushed Floquil Crystal Clear on the rear where the numbers used to be, and on the nose number plate and number boards. New numbers came from Micro Scale Decal Set #87-52. I numbered the A unit as 811A on the rear sides, and 812 in the number plate and boards. The B unit was numbered 811X. After getting the decals snuggled down with setting fluid (one application of Micro Scale Micro Sol, and two of Champ Decal-Set), I sprayed the entire model with Floquil Flat Finish.

Couplers

I added couplers by drilling out the sockets in the coupler pads that are meant to accept the pins from the coupler pocket covers. I used a #50 drill, and then tapped 2-56. Screwing in from above, I used Kadee #35 couplers. For the A-unit nose, I used a #5 box and spring; for the rear of the A-unit, and both ends of the B unit, I used #30 series boxes and springs.

Finishing up

To finish, I replaced the window glass, added the MV Lenses to the appropriate locations, painted the interior Polly-Scale Vermont Green and the fan

blades Polly-Scale Flat Aluminum, added painted crew figures in place of Mr. Proto and Mr. 2000 (the dorky looking, black plastic figures Life-Like includes in all their engines), and attached the shells to their mechanisms. I then weathered the engines with a wash of 10 drops of Polly-Scale Grimy Black in one ounce of rubbing alcohol (70% Isopropanol). When that dried, I carefully brushed thinned Polly-Scale Oily Black (80 drops/ounce Isopropanol) in the grilles for added relief. I now had classy protection and mail train power for the Sand Patch Division of my P&C Railroad. Finally, for those of you who don't want steam generator equipped FA's—simply ignore the fuel tank modifications and steam generator equipment addition. The other details are the same for all FA2/FB2 engines on the B&O.

Final Thoughts:

In doing this project, I looked at pictures of Alco covered wagons in a number of B&O books, principally *B&O Steam Finale, Volume II*, which covers the section of the railroad I am modeling. In doing any diesel detailing project, try to look at as many pictures of the units you are modeling as possible, both the specific engine number you want to duplicate and other members of the class. Sometimes, your information may be wrong or incomplete (like what I had for steam generator and backup light info), but, if you research the engines as much as possible, the chance of making a mistake will go down.



References

Mischke, James. *Baltimore and Ohio Railroad Diesel Locomotive Roster. Second Edition.* 1998. Panther Hollow Press, Albuquerque, NM.

Mellander, Deane and Bob Kaplan, with Photography by William P. Price. *B&O Steam Finale, Volume II.* 1988 Potomac Chapter, NHRS, Kensington, MD.

Ori, David P., Stephan J. Salamon, and David P. Oroszi. *Baltimore and Ohio Sunburst Trail to Chicago. Cumberland to Chicago.* 1993 Old Line Graphics, Silver Spring, MD.

Appel, Walter A. *Trackside Along the B&O 1957-1958 with Edward P. Griffith.* 2000. Morning Sun Books, Inc., Scotch Plains, NJ.

Bill of Materials

Styrene Sheet—

0.040" thick

0.020" thick

Brass Rod—

0.020" diameter

0.040" diameter

Campbell Scale Models #925 Nuts and Bolts

Detail Associates #1507 Receptacles & Blank Covers

Details West—

#175 (Nathan P3) or #186 (Nathan M3) or
#190 (Leslie RSL-3L-R) Air Horns (see text)

#173 Flat Type Single Chime Air Horn

#118 Steam Generator Set (or Custom
Finishing #211, RS-11 Steam Generator Set)

Cal Scale—

#395 Pyle Dual Sealed Beam Headlight

#244 B&O Plate

#461 (Plastic) or #462 (Brass) Alco FA
dynamic brake

MV Products—

#LS11 Headlight Lens

#LS221 Green Marker Lens (use LS22 for
white)

#LS22 Backup Light Lens

Utah Pacific #WS65 Axle Wheel Slip Indicator

Custom Finishing #229 Pickup Shoe

Small Parts, Inc. #U-SWX-30911 0.011" Stainless

Steel Wire (www.smallparts.com)

Microscale Decals #87-52 B&O Cab Diesels

Kadee—

#35 Couplers

#5 box

#5 spring

Floquil—

Dark Blue

Crystal Clear
Flat Finish
Polly-Scale—
Steam Power Black

Vermont Green
Flat Aluminum
Grimy Black
Oily Black

N-34 WAGON TOP COVERED HOPPER

BY BRUCE D. GRIFFIN

PHOTOS BY AUTHOR UNLESS OTHERWISE SPECIFIED.

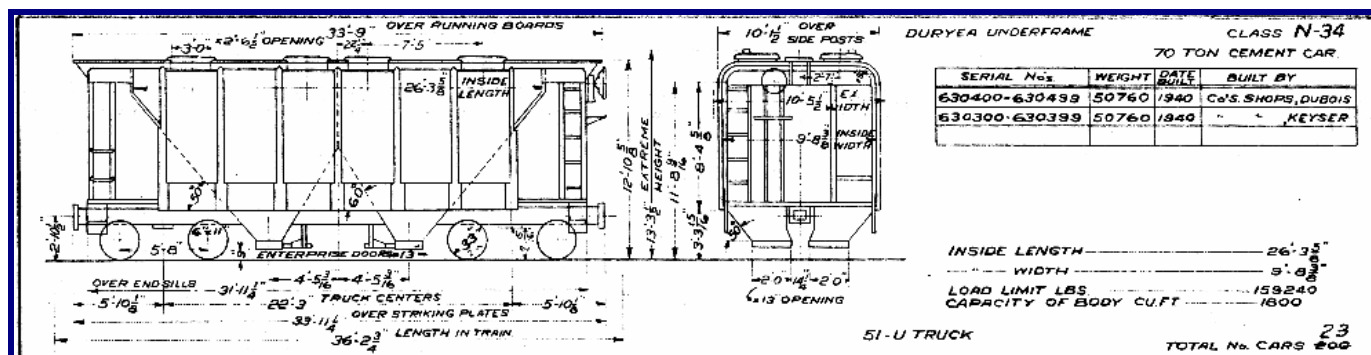


The Prototype

The B&O developed what is referred to as the Wagon Top design during the Depression as a way to manufacture less expensive cars and to keep Company employees at the Cumberland Rolling Mill and its Car Shops active (and employed) with car building projects. The cars were made from recycled metal rolled at Cumberland and parts purchased from various manufacturers. The unique design was also intended to reduce car side deterioration by

eliminating the roof seam. The B&O produced 200 wagon top covered hoppers in 1940 as Class N-34. Car numbers 630400 through 630499 were produced in April at the B&O DuBois, Pennsylvania Shop and numbers 630300 through 630399 in June at the Keyser, West Virginia Shop (yes, it appears the higher car numbers were produced first). These cars remained on the Equipment List for some years (see chart), with none showing on the January 1, 1978 roster.

Year	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Cars in Service	Built	200	200	200	200	200	200	200	200	200
Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Cars in Service	200	200	200	200	200	200	200	199	199	198
Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Cars in Service								54		



B&ORRHS Collection

The N-34's were 70-ton capacity cars and used primarily in cement service. They were all equipped with Duryea cushion type underframes. According to Railway Age (1940) the trucks were equipped with the Barber lateral-motion devices, two-wear wrought-steel wheels, and an A.A.R. H2 Type coil-spring group. The cars were also initially equipped with Ajax hand brakes, Imperial rotary coupler release rigging, KLT slack adjusters, and XLT improved side and end ladders.

The Model

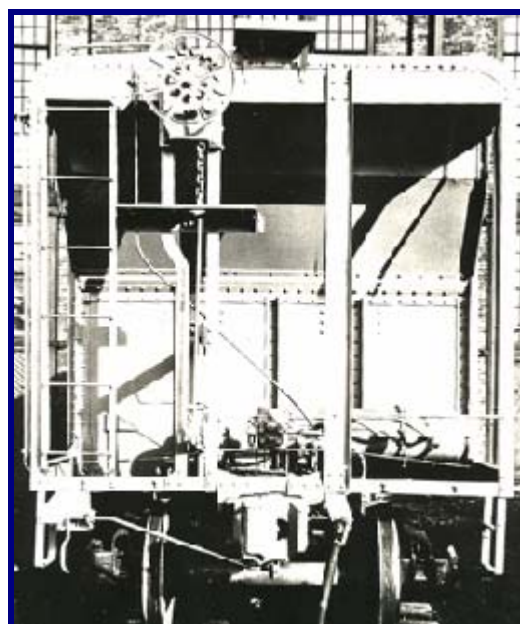
Modeling these unique cars in HO scale has been made easier by the Central Hobby Supply (<http://www.centralhobby.com>), West Shore Line resin kits (WSL 9501 and WSL 9501A). A brass HO scale model was produced by Overland Models (OMI 1390) (<http://www.overlandmodels.com>), painted and unpainted. In S-scale, brass models were recently imported by River Raisin Models (<http://www.riverraisinmodels.com/>).

My HO scale West Shore Line kit was started a few years back but not finished. Searching for specifics about the roof hatch hold down devices slowed progress to a crawl. I finally found the information with the help of some folks on the B&O Yahoo Group. The kit's instructions are straight forward, but lack some detail information that this article will hopefully clear up.

Construction

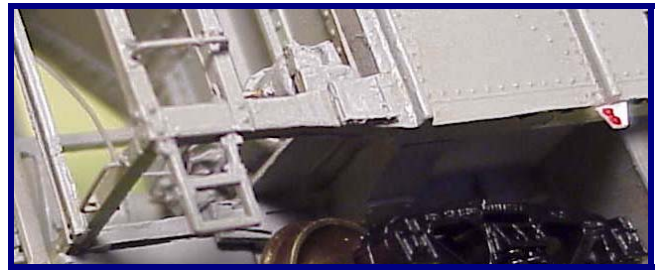
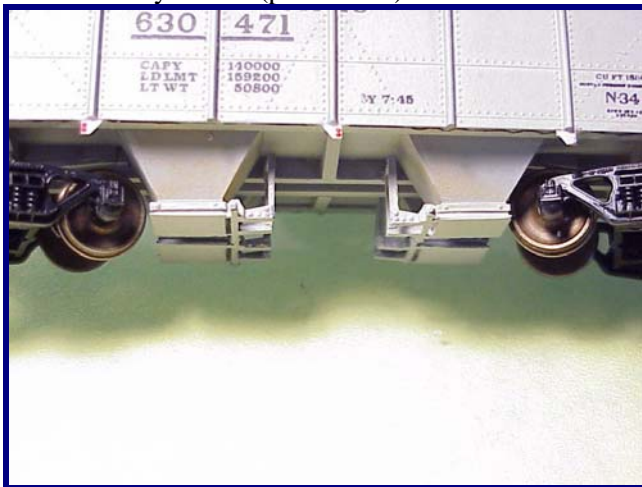
The instructions suggest dry fitting the parts before cementing, which should be done several times. Trimming and adding the car ends is a little tricky as a single casting adds the lower outside frame and upright ladder supports. These must be trimmed and glued in pairs to put the ends together and keep them square. A slow drying, thick ACC or slow drying water-based adhesive should be used to allow the end to be made square and held as the adhesive dries.

These joints are critical to strength, so adding several layers of ACC to the joints from behind helps keep the frame and end square during service on your model B&O. Taking extra time getting this right will pay off in the end. After fitting the parts together, adding couplers to the frame casting is the next challenge. Kadee #78 "scale" metal couplers & "scale" draft gear set were used. These preassembled units are perfect for this project as they are the same width as the frame. I drilled and tapped 0-80 holes in the frame to mount the coupler pockets using the center hole and trimming off the rear tab. One other frame construction item is choosing and adding trucks. These cars were equipped Barber lateral-motion trucks initially. I could not find HO scale trucks to duplicate this, but chose the Red Caboose Barber Truck (#RP-5016) as a close approximation. You will notice in the photos that the opening between the spring group and journal bearing is not the same, so any ideas on a better representation would be appreciated.



B&O Museum Collection

The first detail that is not very well covered in the instructions is the brake detail. My model photos show how I assembled the parts. The triple valve should be mounted longitudinally with the pipe connections to the right. Also, be sure to install the air reservoir with the two mounting lugs on the outside of the car. Lining the brake cylinder up with the two brake wheel platform horizontal brackets as suggested is a little tricky, but allows adding the bell crank and connection for a great looking detail. I used parts from the Tichy brake set included with the kit to model this, but would not use the oversized U connector again. This part is really meant for brake lever connections under a car and is too large for this application. A trainline was added on the right side (viewed from the B end) of the car. It was bent from .020" brass wire and mounted using three unique mounts. The mounts were cut from .010" sheet styrene. They are approximately 4 scale inches square with one corner cut off and glued with ACC to underside, at a slight angle away from the centerline. Rivet detail was added by grafting two rivets per mount from a scrap-box car. I added this detail after the car was completed as it was not shown in the instruction's illustrations or photographs. Later, when I saw it in photographs preparing for this article, I felt it was something unique that I wanted to add. Instead of constructing these mounts, a simpler solution would be to substitute three Detail Associates Eye Bolts (part #2206).



Two other details that should be added along the lower sides are the defect card holders on the left end of each side and the KLT slack adjuster. The slack adjuster can be seen in both the prototype photographs on the same side as the trainline, on the right end of the car. The tack boards appear on both sides of the car. The tack boards were modeled using .010" sheet styrene with .010" x .020" strip styrene glued on top. Each is approximately 5 scale inches by 8 scale inches. I glued the styrene strips on top of the styrene sheet, then cut them out and filed them "square". The KLT slack adjuster was modeled using a brake stand from a Tichy Westinghouse KC Brake Detail Set (#3005). This stand has a ratchet and spur molded into it that gives an adequate representation of the prototype. It appears to be a little small, but I could not find a commercial part available that matched (again suggestions from fellow modelers would be welcomed). I trimmed the part to approximately 7 scale inches by 11 scale inches and glued it to underside with ACC.



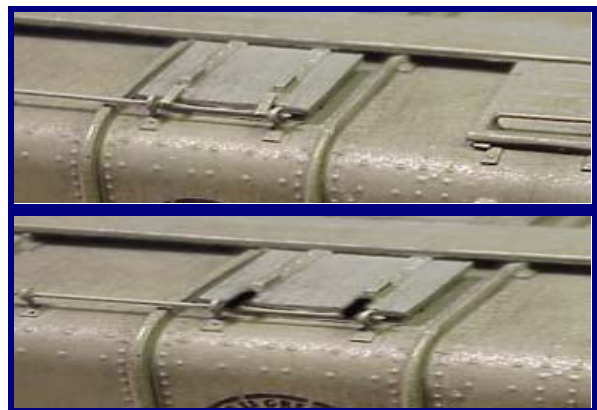
A choice of roofwalks is offered in the kit. For this project the older wooden one, installed originally on the car, was chosen. The supplied cast resin roofwalk lacks bolt details, but fits well and when sanded to a thin profile provides a good look. I used Detail Associates Eye Bolts (part #2206) for the corner support of the roof corner grabs. If you detail the hatch door hold down devices you'll need two packs of these and have some left over for this detail.



B&O Museum Collection



The hatch door hold down devices are roughly shown in a sketch in the instructions, but this does not offer much information on how to model this very visible detail. This is one of the most important details of the car, because on a layout the car will be seen from above most of the time. The first step is to drill the molded-on mounting locations for each of the eleven eye bolts per side with a #72 drill bit. After all holes are drilled, place Detail Associates Eye Bolts (part #2206) in place then run a piece of .010" brass wire to line them up and use a pin tip of ACC to glue each one of the eye bolts to the roof.



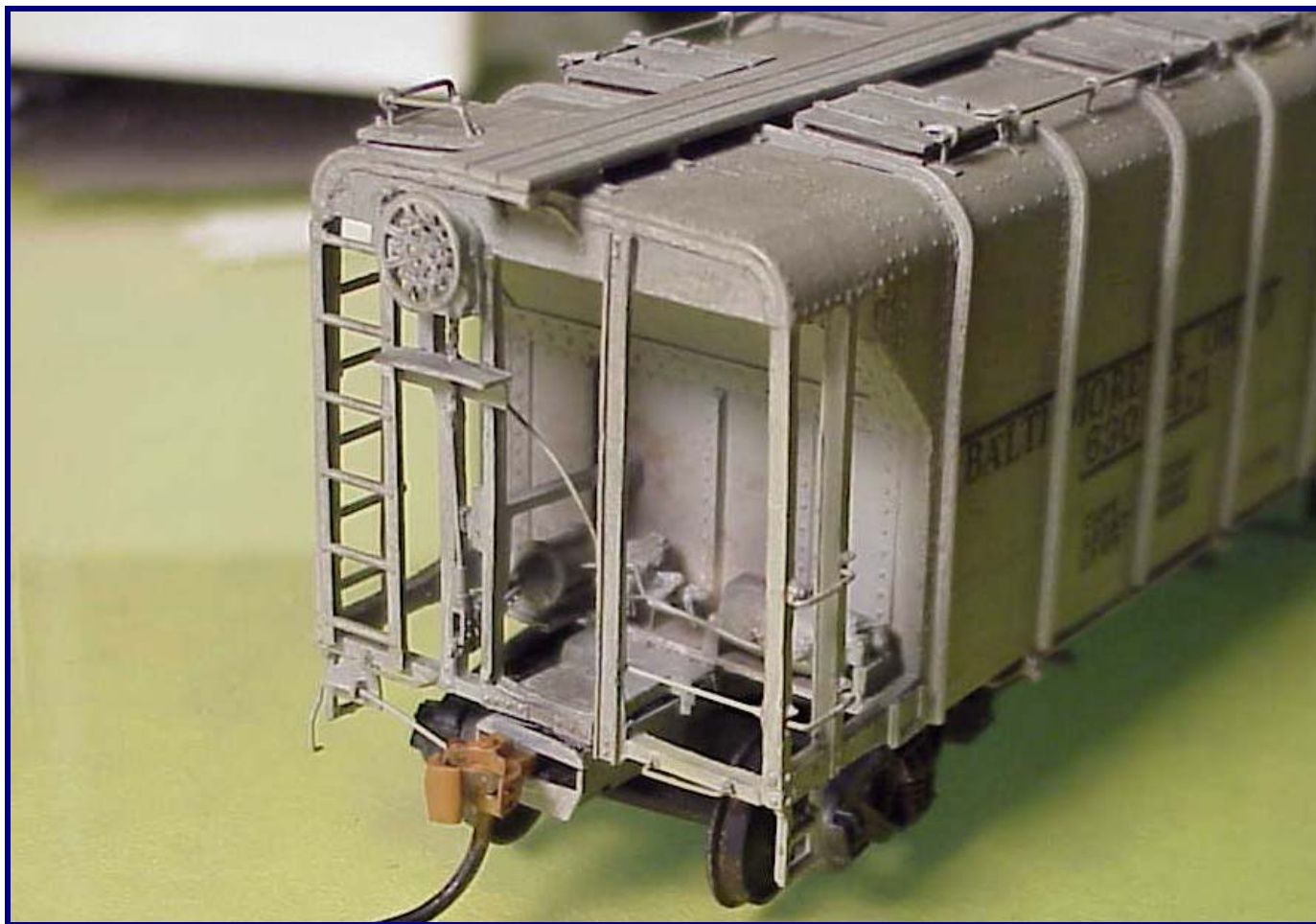
Hold Downs Colored Black

I put a touch of ACC at the connection between the wire and the eye bolt to help strengthen the detail, as its raised location makes it prone to rough handling. There are two tension devices on each hatch door that

were recreated with .010" x .020" strip styrene. Each piece is approximately 7 scale inches long.

The brake stand supplied in the kit is from the included Tichy brake parts tree. I used the stand itself, but not the mounting brackets as the prototype used an L-girder bolted to the horizontal end braces to support the stand. A piece of .010" sheet styrene

was cut approximately 5 scale inches high and the same length as the stand and glued under the stand. Imperial rotary coupler release rigging (cut levers) were fabricated from .012" brass wire. These were mounted using a small bracket fabricated from .020" styrene sheet and an eye bolt. The instruction sheet has an end photo that shows this bracket very well.



Paint Schemes

Interestingly, the cubic capacity was painted as 1700 on the initial cars (as in the "builder" photo of 630431 taken at DuBois), but a Company June 12, 1940 memorandum indicates that the lettering should be changed to 1800 cubic feet "whenever any of these are cars are on shop tracks, in transportation yards, or whenever facilities are available." The decals included with the kit have a capacity of 1880 cubic feet, which should be changed to 1800 using an extra zero from the decal sheet. These first 100 cars were painted with "B&O" above the car number, with a Kohler Capitol Dome above and Baltimore and Ohio spelled out in the upper right hand side (see

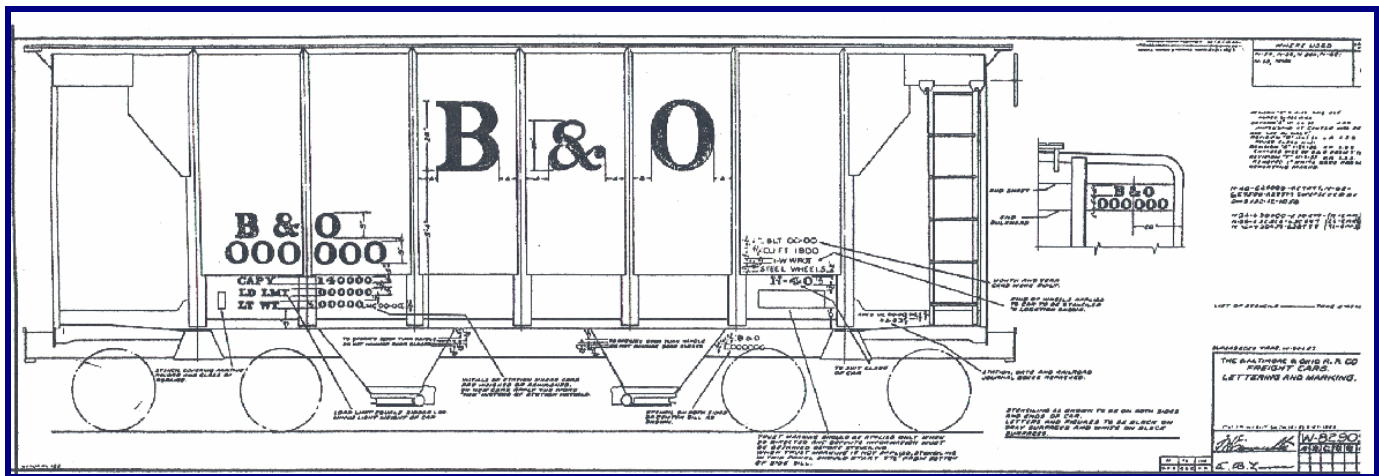
photo of #630431). The second 100 cars built at Keyser were painted in new lettering style that the *B&O Magazine* (1940) anticipated would be adopted as the new standard. This was the scheme with Baltimore and Ohio spelled out over the road number and the Kohler Capitol Dome on the left of the car (see photo of #630365). It is possible that cars repainted after 1945 received the "Linking 13 Great States" Capitol Dome, depicted by my model, if they were repainted before 1953. After 1953, the cars received the large B&O scheme with the large ampersand as shown on the photo of car #630487. After 1955, repainted cars received the large B&O with the small ampersand.



R.C. Feld Photo, B&ORRHS Collection



B&ORRHS Collection



Jim Mischke Collection

My model depicts a car repainted at the Keyser Shop in 1945 with the “Linking 13 Great States” Capitol Dome. This is only 5 years after being built. In the early 1950’s, my modeling era, this car could be found in and around Brunswick, MD serving shippers in cement service. It is unlikely that too many cars were repainted in this scheme as they were less than thirteen years old when the next scheme with large B&O was adopted in 1953. I painted the car using Badger Accuflex Primer Gray lightened with Reefer White. After decaling, I oversprayed with the same color with a little more white added. I lightly weathered the model with pastel chalks, particularly

heavy with black on the upper surfaces as covered hoppers seem to have been coupled right behind steam engines in many early fifties photographs and the cinders must have covered these cars on a regular basis.

Conclusions

This is a great kit, not the simplest nor the most difficult resin kit I’ve attempted. The instructions are a little lacking, but I hope I have filled in some gaps that will allow you build and detail one of these kits. As with any project working from photographs is the best way to get details and paint schemes correct.

References

Baltimore & Ohio builds wagon-top hopper cars. *Railway Age*. June 15, 1940.

1940 *Car Builder's Cyclopedia*, also *Train Shed Cyclopedia* No. 5, Photo and caption, N34, Fig. 365.

Larger cement hoppers for B&O. (1940, August). *Baltimore and Ohio Magazine*.

N34 lettering position diagrams (1985, January/February). *The Sentinel*, 10.

Rogers, Charles. (ed.) (1984, November/December). N34 wagontop covered hopper. *The Sentinel*, 14-15.

Special Thanks

Jim Mischke and Nick Fry

Bill of Materials

Styrene Sheet—

0.010” thick

0.020” thick

Brass Rod—

0.012” diameter

0.020” diameter

Badger—

Accuflex Primer Gray

Accuflex Reefer White

Detail Associates—

#2206 Eye Bolt, 3½”

Evergreen Scale Models—

#100 .010” x .020” strip styrene

Kadee—

#78 “Scale” Metal Couplers & “Scale” Draft Gear Set

North West Short Line—

#37217 88 Tread 33”

Red Caboose—

S-SCALE MODELING AND THE B&O CONNECTION

BY EDWIN KIRSTATTER



S Scale Modeling by Jack Sudimak of Medina, Ohio; Photograph by Mike Lytle.

Cleveland Model Supply first introduced S scale model railroading in the United States in 1937. I first saw it advertised in a model airplane magazine that same year. At that time it was known as C-D scale or gauge. Its scale is $3/16" = 1' - 0"$. The name "S" was given to this scale by the NMRA. It is easy to use, as one prototype inch equals $1/64"$ when measuring in this scale.

There are a number of accurate models for the B&O in S scale. Steam locomotives include a class C-16 Dockside 0-4-0T made by Rex Engineering and now owned by Put Trains.

River Raisin Models imported a USRA Light Pacific in brass which can be detailed and painted to

represent a Class P-5 4-6-2. (<http://www.riverraisinmodels.com/>) A USRA Light Mikado in brass was imported by Overland Models Inc. With a few changes and details it will make a Class Q-3 2-8-2. (<http://www.overlandmodels.com>) South Wind Models imported a Class EM-1 2-8-8-4 in brass. This model was factory painted and available in several numbers. (<http://www.southwindmodels.com/>)

And coming later this year will be an E-27ca 2-8-0 by S-Helper Service. This will be their first steam loco model. Its construction will be of die-cast metal, plastic, and brass detail parts. (<http://www.showcaseline.com/>)



S Scale Modeling by Jack Sudimak of Medina, Ohio; Photograph by Mike Lytle.

Many Diesel models have been available as brass imports as well as plastic and some resin cast kits. To represent EMD prototypes, E-8, FT, F-3, F-7, SW-1 and SW-9 models are available. The models by American Models and S-Helper Service come ready to run and painted. Many were made in brass models. Alco is represented by FA2 and FB2s and S-2 switchers. Baldwin models produced include a S-12 switcher and RF-16 Sharknose road engines. A GE center cab switcher has been made in both a brass import and a resin kit. (<http://www.americanmodels.com/>)

In freight cars we have the following classes covered: M-24, M-53, M-55c, M-55h and M-67 to represent boxcars. For hoppers we have N-17, N-34, N-43 and N-47. In addition, American Models has hoppers that can be lettered for classes N-35, N-35a, N-41, N-44, W-2 and W-7.

For flatcars and gondolas I only know of one gondola that is lettered as B&O but not accurately and two flats, neither of which is correct.

American Models has over the years painted and lettered both their Heavyweight and streamlined Passenger cars for B&O. I am not a passenger expert but I do not think any are accurate.

There are some accurate cabooses imported as brass models by South Wind Models for classes I-5b, I-5ba and I-12. The I-5b and I-5ba only came as factory painted models in several schemes. S-Helper Service is working on a model of class I-1/I-1a to go along with the forthcoming E-27ca.

S scale was noted as being a model builder's scale and still can be because of its in-between size. S scale is a minority scale but is growing due to all of the new manufactures and importers. Let's take the "Secret" out of S scale. Now you know about it.

PLANNED FOR NEXT ISSUE

**O-27ba Gondola in HO Scale
Kitbashing a C-15 Express Car**

TOPICS IN NEED OF COLLABORATION FOR FUTURE ISSUES

(CONTACT THE EDITOR TO ASSIST WITH ARTICLES ON THESE TOPICS OR HAVE A TOPIC YOU ARE WORKING ON LISTED)

**Mt. Clare Shops M-15k Wagon Top Boxcar
HO Scale NW2**

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